

SECTION IV.—RIVERS AND FLOODS.

RIVERS AND FLOODS, DECEMBER, 1918.

By ALFRED J. HENRY, Meteorologist in Charge.

[Dated: Weather Bureau, Washington, Jan. 30, 1919.]

The conditions of the streams on December 31, 1918, as regards thickness of ice, was in strong contrast with that of a year ago.

At this writing, January 30, 1919, it seems reasonably certain that the probability of destructive floods in the rivers, due to the breaking up of ice, is remote. The probability of a rain flood is always present.

General moderate to heavy rains caused most of the streams in the South Atlantic drainage to slightly exceed flood stages about the 15th to 18th and again about the 22d to 27th. Comparatively little damage was done by high water. Timely warnings resulted in saving a good deal of live stock that was pastured along the rivers.

Heavy rains in the East Gulf States from the 19th to 21st, caused moderate floods in most of the rivers during the last decade. The West Pearl River was also slightly above flood stage from the 3d to the 5th.

Slight floods occurred in the Maumee and St. Joseph Rivers, in Indiana and Ohio on the 15th and 22d.

Heavy rains were general over the Wabash River Valley on the 14th, causing a rapid rise at all points. The crest stages were not unusually high, but a great deal of damage was done to corn that had not been shucked.

Heavy rains in the French Broad River Valley caused the river to overflow on the 15th and again on the 22d. But little damage resulted, except to bridges and roads. The high water of the 22d caused the Tennessee River to exceed the flood stage to below Knoxville, Tenn.

The Illinois River was slightly above flood stage at Peru, Henry, and Beardstown, Ill., during the latter part of the month.

Slight floods occurred in most of the rivers of Arkansas and in the Sulphur River in Texas from the 14th to the 18th and in the Cache River in Arkansas from the 29th to the end of the month. No damage was reported in Arkansas. Considerable damage was caused to crops and live stock near Ringo Crossing, Tex. The high water near Findley, Tex., prevented prompt repairs to a gas pipe line, causing about \$150,000 damage.

Flood stages were exceeded on the Upper Trinity River as far down as Liberty, Tex. The first rise began on the 15th and the second on the 21st. The river was still in flood at Trinidad and Liberty, Tex., at the end of the month. No damage resulted from these rises.

The usual tables follow:

Losses in December, 1918, due to floods.

District.	Bridges, highways, etc.	Crops.		Farm property, live stock, etc.	Suspension of business.	Value of warnings.
		Gathered.	Prospective.			
Columbia, S. C.	\$6,250					\$73,250
Charleston, S. C.	1,100	\$500		\$400	\$8,000	20,000
Montgomery, Ala.		200				1,000
Terre Haute, Ind.		200,000	\$50,000			50,000
Indianapolis, Ind.	\$15,000					
Asheville, N. C.	8,000			40		1,000
Shreveport, La.	500	2,500		2,000	150,000	2,000
Total	30,850	203,850	50,000	2,440	158,000	147,250

* Includes farm property, etc.

TABLE I.—Flood stages in the Atlantic drainage during December, 1918.

River and station.	Flood stage.	Above flood stages—dates.		Crest.	
		From—	To—	Stage.	Date.
<i>James:</i>	<i>Feet.</i>			<i>Feet.</i>	
Buchanan, Va.	15			14.7	23
Columbia, Va.	18	24	24	19.6	24
<i>Roanoke:</i>					
Weldon, N. C.	30	25	25	32.8	25
<i>Tar:</i>					
Rocky Mount, N. C.	9			8.4	19
Greenville, N. C.	13			12.3	23
<i>Fishing Creek:</i>					
Enfield, N. C.	14	18	18	14.6	18
<i>Neuse:</i>					
Neuse, N. C.	14	18	20	15.4	19
Smithfield, N. C.	14	18	21	15.3	18
<i>Cape Fear:</i>					
Elizabethtown, N. C.	22	19	19	22.5	19
<i>Peedee:</i>					
Cheraw, S. C.	27	19	19	28.6	19
Do.		25	26	30.3	25
<i>Santee:</i>					
Rimini, S. C.	12	(*)	6	14.2	4
Do.		17	(**)	18.6	29
Ferguson, S. C.	12	2	9	13.4	5-6
Do.		19	(**)	14.5	30
<i>Catawba:</i>					
Catawba, S. C.	11	17	17	11.0	17
Do.		23	25	14.1	23
<i>Wateree:</i>					
Camden, S. C.	24	17	18	26.7	18
Do.		24	26	29.6	24
<i>Congaree:</i>					
Columbia, S. C.	15	24	24	15.7	24
<i>Broad:</i>					
Blairs, S. C.	15	23	24	17.0	23-24
Carlton, Ga.	4	22	26	20.0	22
<i>Saluda:</i>					
Pelzer, S. C.	7	16	17	8.6	16
Do.		22	25	13.0	23
Chappells, S. C.	14	16	19	19.4	18
Do.		22	27	20.0	25
<i>Savannah:</i>					
Calhoun Falls, S. C.	15	23	23	15.9	23
Augusta, Ga.	32	24	24	35.0	24
<i>Oconee:</i>					
Dublin, Ga.	22			18.9	29
Milledgeville, Ga.	22			21.3	23
<i>Ocmulgee:</i>					
Macon, Ga.	18	23	24	19.4	23
Abbeville, Ga.	11	27	(**)	14.8	29

* Continued from November.

** Continued into January.

TABLE II.—Flood stages in East Gulf drainage during December, 1918.

River and station.	Flood stage.	Above flood stages—dates.		Crest.	
		From—	To—	Stage.	Date.
<i>Flint:</i>	<i>Feet.</i>			<i>Feet.</i>	
Woodbury, Ga.	10	23	24	10.5	24
Montezuma, Ga.	20			18.8	25
Albany, Ga.	20	25	(**)	23.3	30
Bainbridge, Ga.	25			23.5	31
<i>Chattahoochee:</i>					
Norcross, Ga.	16	23	24	21.3	23
West Point, Ga.	20	22	23	22.1	23
Columbus, Ga.	20	21	*	41.5	23
Eufaula, Ala.	40	22	27	53.0	23
Alaga, Ala.	30	22	29	40.8	25
<i>Alabama:</i>					
Montgomery, Ala.	35	23	28	45.0	25
Selma, Ala.	35	23	30	46.4	26-27
<i>Tallahassee:</i>					
Milstead, Ala.	40	22	23	46.4	22
<i>Cosa:</i>					
Rome, Ga.	30			27.9	24
Gadsden, Ala.	22	26	26	22.0	26
Lock, No. 4, Lincoln, Ala.	17	24	29	18.0	25-26
Wetumpka, Ala.	45			44.3	24
<i>Etowah:</i>					
Canton, Ga.	11	22	23	23.0	22
<i>Tombigbee:</i>					
Demopolis, Ala.	39			38.5	26
<i>Pascagoula:</i>					
Merrill, Miss.	20			18.2	26-27
<i>West Pearl:</i>					
Pearl River, La.	13	3	5	13.8	4
Do.		25	(**)	14.0	29

** Continued into January.

TABLE III.—Flood stages in the Great Lakes drainage during December, 1918.

River and station.	Flood stage.	Above flood stages—dates.		Crest.	
		From—	To—	Stage.	Date.
<i>Maumee:</i>	<i>Feet.</i>			<i>Feet.</i>	
Fort Wayne, Ind.....	15	15	16	16.1	15
Do.....		22	26	17.6	23
<i>St. Joseph:</i>					
Montpellier, Ohio.....	10	15	15	10.6	15
Do.....		22	25	11.8	23

TABLE IV.—Flood stages in the Mississippi River drainage during December, 1918.

River and station.	Flood stage.	Above flood stages—dates.		Crest.	
		From—	To—	Stage.	Date.
<i>Scioto:</i>	<i>Feet.</i>			<i>Feet.</i>	
Circleville.....	7			6.4	16
<i>Wabash:</i>					
Lafayette, Ind.....	11	15	13	17.6	16
Do.....		22	28	19.7	24-25
Terre Haute, Ind.....	16	21	(**)	19.0	27
Vincennes, Ind.....	14	21	(**)	17.4	30
Mount Carmel, Ill.....	15	15	(**)	21.5	30
<i>White:</i>					
Decker, Ind.....	18	18	(**)	19.9	22
<i>White, West Fork:</i>					
Noblesville, Ind.....	14			12.1	15
Ellettsville, Ind.....	19	14	19	23.0	17
Do.....		22	28	25.2	26
<i>French Broad:</i>					
Penrose, N. C.....	13	22	25	20.2	22
Asheville, N. C.....	4	15	15	4.0	15
Do.....		17	17	4.5	17
Do.....		22	26	9.0	23
Marshall, N. C.....	10			9.5	23
Danhrbridge, Tenn.....	12			11.6	23
<i>Big Pigeon:</i>					
Newport, Tenn.....	6	22	22	10.0	22
<i>Tennessee:</i>					
Knoxville, Tenn.....	12	28	25	13.0	24
Riverton, Ala.....	32			29.5	28
<i>Little Tennessee:</i>					
McGhee, Tenn.....	20			13.8	23
<i>Hiwassee:</i>					
Charleston, Tenn.....	22	23	23	22.5	23
<i>Illinois:</i>					
Morris, Ill.....	13			11.9	24
Peru, Ill.....	14	22	(**)	15.1	25, 27-28
Henry, Ill.....	7	20	(**)	9.0	29-30
Peoria, Ill.....	16			15.9	31
Havana, Ill.....	14			12.9	31
Beardstown, Ill.....	12	30	(**)	12.3	31
<i>Meramec:</i>					
Pacific, Mo.....	11			10.3	16
<i>Ouachita:</i>					
Arkadelphia, Ark.....	18	14	15	18.6	14
Camden, Ark.....	30	19	19	30.2	19
<i>Petit Jean:</i>					
Danville, Ark.....	20	14	18	24.3	15-16
<i>White:</i>					
Batesville, Ark.....	23			21.5	15
Georgetown, Ark.....	22			21.4	24-25
<i>Black:</i>					
Black Rock, Ark.....	14	14	(**)	19.4	14
<i>CACHE:</i>					
Jelks, Ark.....	9	29	(**)	9.6	31
<i>Little:</i>					
White Cliffs, Ark.....	28	16	17	28.7	16
<i>Sulphur:</i>					
Finley, Tex.....	24	17	20	27.8	13
Ringo Crossing, Tex.....	20	14	15	25.0	14

* Continued from November.

**Continued into January.

TABLE V.—Flood stages in the West Gulf drainage during December, 1918.

River and station.	Flood stage.	Above flood stages—dates.		Crest.	
		From—	To—	Stage.	Date.
<i>Trinity:</i>	<i>Feet.</i>			<i>Feet.</i>	
Dallas, Tex.....	25	21	28	32.2	25
Trinidad, Tex.....	28	15	20	32.9	17
Do.....		26	(**)	33.6	31
Long Lake, Tex.....	40	21	21	40.6	21
Liberty, Tex.....	25	(*)	8	25.7	4-6
Do.....		31	(**)	25.0	31
Bridgeport.....	25			20.0	23
<i>Colorado:</i>					
Columbus, Tex.....	28			26.4	26

*Continued from November.

**Continued into January.

SNOWFALL IN THE HIGH MOUNTAINS, DECEMBER, 1918.

The meteorological conditions during the month were not conducive to heavy snowfall in the mountains. The snowstorms were more or less local in that they prevailed over different parts of the mountain region on different dates; there was no single period of snowfall that affected all parts of the region alike. High pressure prevailed almost continuously throughout the month.

In the southern part of the Rocky Mountain and Plateau region there was considerable snow on the high altitudes at the close of November and this snow seems to have been fairly well conserved during December. Temperature was quite uniformly below the normal in this region, possibly as a result of the snow cover on the higher altitudes.

MEAN LAKE LEVELS DURING DECEMBER, 1918.

By UNITED STATES LAKE SURVEY.

[Dated: Detroit, Mich., Jan. 6, 1919.]

The following data are reported in the "Notice to Mariners" of the above date:

Data.	Lakes.*			
	Superior.	Michigan and Huron.	Erie.	Ontario.
Mean level during December, 1918:				
Above mean sea level at New York.....	Feet. 602.42	Feet. 581.05	Feet. 572.21	Feet. 245.89
Above or below—				
Mean stage of November, 1918.....	-0.12	-0.07	-0.03	-0.11
Mean stage of December, 1917.....	+0.28	+0.25	-0.35	-0.56
Average stage for December, last 10 years.....	+0.17	+0.03	+0.60	+0.52
Highest recorded December stage.....	-0.71	-1.53	-1.32	-1.72
Lowest recorded December stage.....	+1.22	+2.05	+1.35	+2.46
Average relation of the December level to—				
November level.....		-0.2	-0.2	-0.2
January level.....		+0.2	+0.1	+0.1

* Lake St. Clair's level: In December, 575.42 feet.